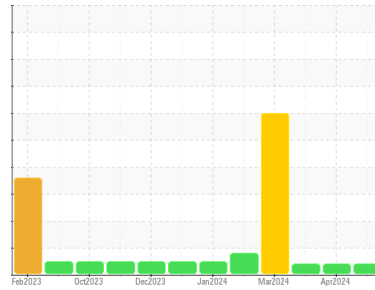




OIL ANALYSIS REPORT

Area
(83J 44U)
 Machine Id
913147
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



VISCOSITY



DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	GFL0118779	GFL0118804	GFL0114173	
Sample Date	Client Info	08 May 2024	17 Apr 2024	26 Mar 2024	
Machine Age	hrs	Client Info	3359	3243	3103
Oil Age	hrs	Client Info	3086	2970	0
Oil Changed	Client Info	Changed	Not Changd	Not Changd	
Sample Status		ATTENTION	ATTENTION	ATTENTION	

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	0.2
Water	WC Method >0.2	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	6	6	2
Chromium	ppm ASTM D5185m >20	0	<1	0
Nickel	ppm ASTM D5185m >5	2	3	2
Titanium	ppm ASTM D5185m >2	0	<1	0
Silver	ppm ASTM D5185m >2	<1	<1	0
Aluminum	ppm ASTM D5185m >20	1	3	<1
Lead	ppm ASTM D5185m >40	<1	<1	<1
Copper	ppm ASTM D5185m >330	0	2	<1
Tin	ppm ASTM D5185m >15	<1	1	0
Vanadium	ppm ASTM D5185m	0	<1	<1
Cadmium	ppm ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	35	40	57
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	56	58	55
Manganese	ppm ASTM D5185m 0	<1	<1	0
Magnesium	ppm ASTM D5185m 1010	1063	1038	1142
Calcium	ppm ASTM D5185m 1070	801	813	872
Phosphorus	ppm ASTM D5185m 1150	1050	1058	960
Zinc	ppm ASTM D5185m 1270	1227	1199	1299
Sulfur	ppm ASTM D5185m 2060	3698	3392	3975

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	5	4
Sodium	ppm ASTM D5185m	5	3	4
Potassium	ppm ASTM D5185m >20	1	2	<1

INFRA-RED

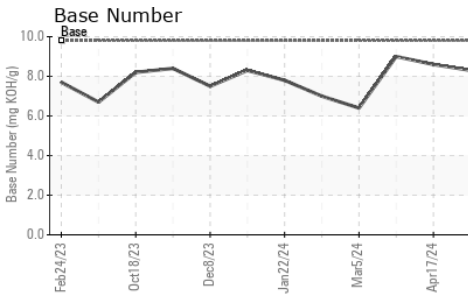
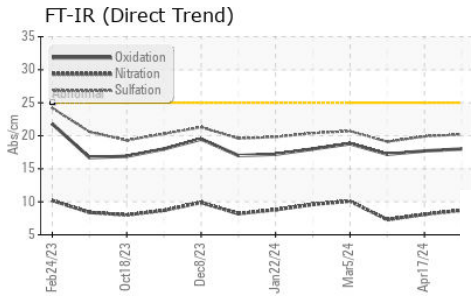
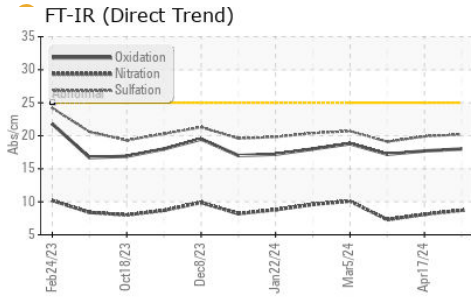
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.3	0.2	0.2
Nitration	Abs/cm *ASTM D7624 >20	8.7	8.1	7.3
Sulfation	Abs/.1mm *ASTM D7415 >30	20.2	19.9	19.1

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	18.0	17.7	17.2
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.3	8.6	9.0



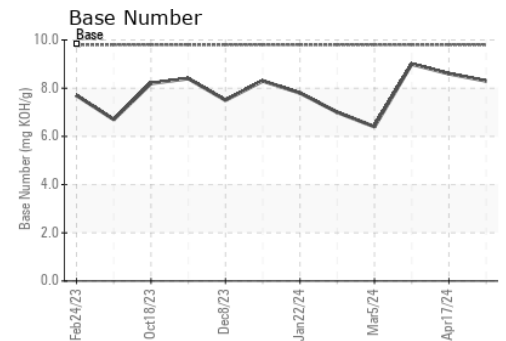
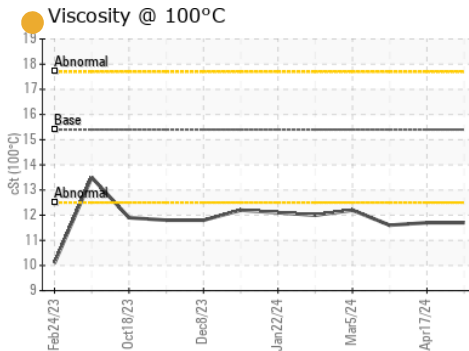
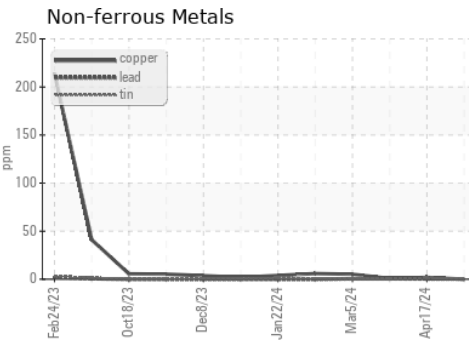
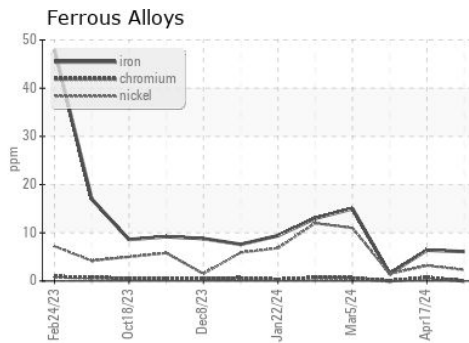
OIL ANALYSIS REPORT



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	11.7	11.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0118779
Lab Number : 06175191
Unique Number : 11021244
Test Package : FLEET

Received : 10 May 2024
Tested : 11 May 2024
Diagnosed : 13 May 2024 - Don Baldrige

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Loyce Stewart
 loyce.stewart@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)